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THE TAXONOMIC STATUS OF BORNEAN  
SNAKES OF THE GENUS *PSEUDORABDION*  
JAN AND OF THE NOMINAL GENUS  
*IDIOPHOLIS* MOCQUARD<sup>1</sup>

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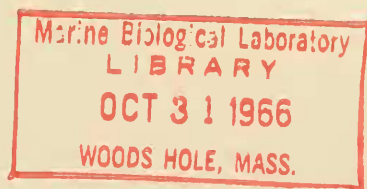
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Recently collected series of Bornean snakes provide us with an opportunity to review four poorly known forms referable to the genus *Pseudorabdion* and to discuss the status of Mocquard's singular genus *Idiopholis*. Additional Bornean specimens of *P. longiceps* have also been obtained; they add nothing to previous discussions of this species (Leviton and Brown, 1959) and will not be considered further in this paper.

Mocquard's diagnosis (1892) of *Idiopholis* agrees with that of *Pseudorabdion* Jan, as defined by Leviton and Brown (1959), point for point except in one detail, namely, the presence of a small azygous shield between the internasals of *Idiopholis collaris* (type species of the genus *Idiopholis*, by monotypy). If *I. everetti*, described by Shelford and assigned to *Idiopholis* for reasons unknown to us, is indeed congeneric with *I. collaris* Mocquard, then even this presumed difference between *Idiopholis* and *Pseudorabdion*, which we regard quite frankly as an anomaly anyhow, disappears, for *I. everetti* lacks the extra internasal.

The holotypes of both nominate forms of *Idiopholis* have been examined; neither can be distinguished from *Pseudorabdion*, even as a species group.

<sup>1</sup> Examination of holotypes and collection of fresh material were made possible by National Science Foundation grants G 6257, G 20867, and GB 1049.



The absence of loreal and preocular shields and a tendency towards fusion of the supraoculars and postoculars place *I. everetti* and *I. collaris* very close to the "*oxycephalum*" complex of Philippine species, *P. oxycephalum* (Günther), *P. ater* (Taylor), and *P. montanum* Leviton and Brown. A skull removed from a specimen of *I. everetti* (CNHM 120377) is exactly like that of *Pseudorabdion longiceps* (CNHM 71596), type species of the genus *Pseudorabdion*, except in certain aspects of shape related to differences in shape of snout (fig. 1). We therefore recommend that *Idiopholis* Mocquard be placed in the synonymy of *Pseudorabdion* Jan.

The recent acquisition of seven snakes from Borneo that are morphologically similar to the holotype of *P. everetti* (Shelford) raises another problem. These animals are from Niah, Fourth Division, Sarawak (CNHM 120376-7, 131632) and Nanga Tekalit, Mengiong River, Third Division, Sarawak (CAS 97740 and CNHM 138670-1, 147653). Five are females, two are males. Descriptive notes on these seven follow (see fig. 2).

Scales smooth, in 15 rows throughout; nostril is an undivided nasal shield which is partially fused to the first upper labial; no loreal or preocular; two internasals much smaller than prefrontals; prefrontal and frontal bordering eye; supraocular absent; five supralabials, third and fourth bordering eye; five infralabials; mental touching anterior chin shields; anterior chin shields longer than posterior ones; maxillary teeth subequal, 22-25 (three counted); ventrals 120-134 in females, 116-122 in males; anal single; subcaudals paired, 27-31 in females, 36-41 in males; total length 179-190 mm. in females, 190-204 in males; tail length 22-23 mm. in females, 33-40 in males.

The split between the lips extends back under the anterior half of the scale behind the fifth supralabial. Hence the supralabial count might be regarded as six by some workers. As the opening into the mouth ends below the fifth shield, we consider that scale to be the last supralabial.

There is either a single, vertically elongate postocular or two squarish postoculars. In both cases the upper part of these oculars curves very slightly over the posterior part of the upper border of the eye and is wedged between the frontal shield and the eye. It is a matter of arbitrary definition whether one calls the upper part simply a postocular or the fused remnants of a supraocular with the postocular. Whatever name one wishes to apply, as the head becomes narrower, shields are lost through fusion and reduction, reflecting a reduction of interorbital width and consolidation of the skull. Three of our specimens have two postoculars on both sides of the head, two have a single postocular on both sides, and two have a single postocular on one side and two on the other. The holotypes of *P. everetti* and *P. collaris* have two postoculars. None of these snakes have the postoculars fused with the "Brille," as in *P. oxycephalum* and *P. ater* and occasionally in *P. mcnamarae*.

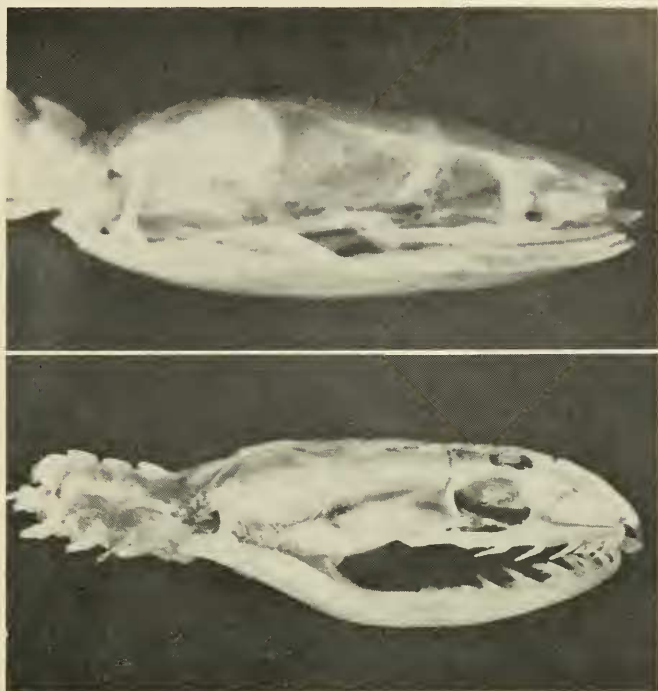


FIGURE 1. Lateral views of skulls of *P. collaris* (top) and *P. longiceps* (bottom).

Our examination of the holotypes of *P. collaris* and *P. everetti* reveals few differences. Both have deep, narrow rostrals, a partly divided nasolabial shield, and a frontal that is much wider than long. The prefrontal and frontal border the eye in both. The ventral and subcaudal counts are  $127 + 29$  in *P. collaris* and  $131 + 25$  in *P. everetti*; the holotypes are females. These counts do not suggest specific differences as the ranges in the four recently collected females are 120–134 and 27–31. The holotype of *P. collaris* has 20 small, closely spaced teeth; we have not counted the teeth on the type of *P. everetti*. In other respects both holotypes agree with the descriptive notes given above.

The only differences between the two holotypes not spanned by variation in the new snakes concern color and the small extra internasal. The holotype of *P. collaris* is the only one of the specimens involved having a light collar. It is also the only one having the minute median internasal, which, as we have already observed, we believe to be an anomaly. In view of the otherwise comprehensive similarity of this holotype with the other specimens, we are inclined to view these differences as reflecting individual rather than interspecific variation. We therefore recommend the following synonymy:

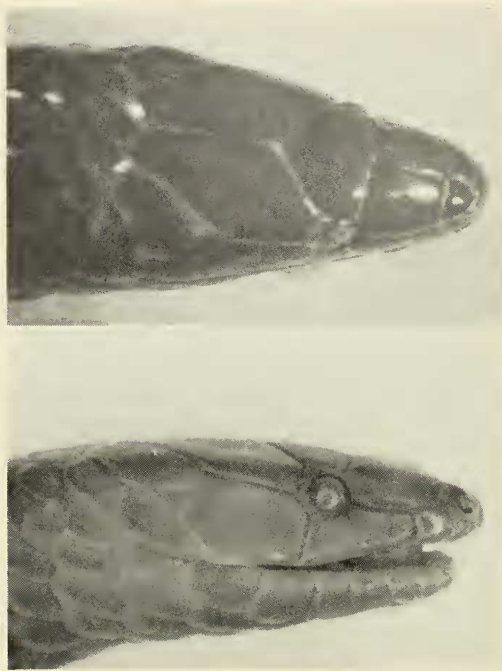


FIGURE 2. Dorsal and lateral views of heads of *P. collaris*. Top, CNHM 138670. Bottom, CNHM 138671.

*Pseudorabdion collaris* (Mocquard) (fig. 2).

*Idiopholis collaris* Mocquard, 1892, Mém. Soc. Zool. France, vol. 5, p. 191, pl. 7, fig. 1 (type locality, Sebruang River, Borneo).

*Idiopholis everetti* Shelford, 1901, Ann. Mag. Nat. Hist., ser. 7, vol. 8, p. 517 (type locality, Sawah, North Borneo).

Of those species of *Pseudorabdion* which lack loreal and preocular scales, only *P. ater* (Taylor) and *P. collaris* (Mocquard) have the frontal shield forming part of the orbital border. The holotype and only known specimen of *P. ater* differs from *P. collaris* in having only 12 maxillary teeth and the ocular "Brille" fused to the postocular. It, therefore, represents a more advanced stage of specialization than *P. collaris*.

Two other nominal species from Sarawak have been known from single specimens since they were described in 1896 and 1901. The holotype of *P. albonuchalis* (Günther) was never deposited in a museum; authorities at the British Museum have no record of it (Leviton and Brown, 1959) and we have pored through the collection of the Sarawak Museum without finding it. We have examined the holotype of *P. saravacensis* (Shelford).

These species are supposedly very similar. According to the original description they have an elongate lori-ocular, no preocular, small internasals and

large prefrontals, five or six supralabials, and are black dorsally and ventrally except for light markings on the head and neck. The original descriptions differ in only three major points. The frontal of *P. albonuchalis* was said to form part of the orbital border, whereas it was excluded from the orbit of *P. saravacensis*. The ventral and subcaudal counts were given as  $141 + 43$  for *P. albonuchalis* and as  $113 + 26$  for *P. saravacensis*. According to our observations, the holotype of *P. saravacensis* is a male having counts of  $109 + 26$ . <sup>2</sup>The light markings of *P. albonuchalis* consisted of a broad light collar that covered half of the parietals and part of the neck; *P. saravacensis* had a light blotch on each side of the head above the rictus and a band on the neck.

Four snakes recently collected in Sarawak are obviously related to these forms. They have the frontal separated from the orbit as in *P. saravacensis*, but their ventral and subcaudal counts (males  $127-128 + 58-60$ ; female  $142 + 40$ , the very tip of the tail missing) and coloration are those of *P. albonuchalis*. With one exception their remaining characters agree with both original descriptions.

The one scale characteristic in which the new snakes differ somewhat from the holotypes involves the supraocular and postocular. In two males (CNHM 151709-10) from Sungei Pesu, Fourth Division, Sarawak, these scales are fused on one side of the head. In a male (CAS 101500) and a female (CNHM 131633) from Niah, Fourth Division, Sarawak, these scales are fused on both sides. The orbital scutellation is clearly subject to individual variation in these snakes and recalls that observed in another fossorial colubrid from the same region, *Calamaria schlegeli* (Inger and Marx, 1965).

The difference between these four snakes and the holotype of *P. albonuchalis* in the relation of the frontal shield to the orbital border is probably also a matter of individual variation. The agreement of the four new specimens with the original description in counts and coloration argues for this explanation as does the variation just discussed. There is little doubt that these four snakes are conspecific with *P. albonuchalis*.

The distinctions between the holotype of *P. saravacensis* and *P. albonuchalis* cannot be ascribed to individual variation. The coloration in the five known specimens of *P. albonuchalis* is constant and different from that of *P. saravacensis*. The subcaudal count of the *P. saravacensis* holotype, which has a complete tail, is only half that of the males of *P. albonuchalis*. The difference in ventral counts ( $109$  vs.  $127-128$ ) is moderate. We therefore believe *P. saravacensis* (Shelford) to be a distinct species.

As the holotype of *P. albonuchalis* seems to be lost (as already noted), and in view of the complex problems relating to the recognition of nominal

<sup>2</sup> The discrepancy in ventral counts of the holotype arises from our omission of the narrow median gulars.

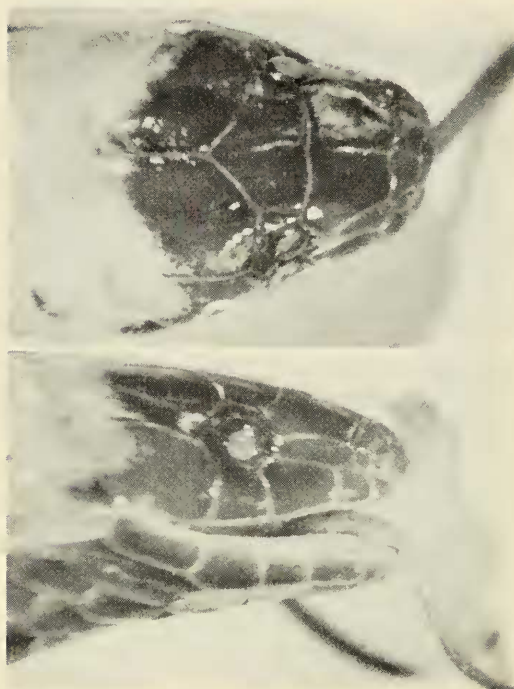


FIGURE 3. Dorsal and lateral views of head of *P. albonuchalis*, neotype (CNHM 151709).

species of *Pseudorabdion*, we are designating one of the newly collected specimens as neotype. We have selected a male rather than the single female because the male has a complete tail and is otherwise in a better state of preservation.

*Pseudorabdion albonuchalis* (Günther) Neotype: Chicago Natural History Museum 151709, a male collected at Sungei Pesu, Fourth Division, Sarawak, March 22, 1964 by Mr. William Hosmer (fig. 3).

Rostral narrow, distinctly higher than wide; internasals half length of prefrontals; frontal slightly longer than prefrontal, excluded from orbit; prefrontal and supraocular forming dorsal border of eye; nasal divided; a long lori-ocular; five supralabials, third and fourth bordering eye; one postocular; five infralabials; mental touching anterior chin shields; scale rows 15; ventrals 127; anal entire; subcaudals 60; snout-vent length 200 mm., tail 72 mm.; light collar occupying half of parietals and a band of four scales behind parietals.

*Pseudorabdion albonuchalis* differs from other species of this genus having a lori-ocular in various ways. The presence of a wide yellow collar on an

otherwise dark brown or black body, the contact of mental and chin shields, and the higher number of maxillary teeth (17–21) distinguish *P. albonuchalis* from *P. sarasinorum* (Müller).

Both *P. mcnamarae* Taylor (known from at least 11 specimens) and *P. taylori* Leviton and Brown (known from 3) have less than half as many maxillary teeth (7–8) as *P. albonuchalis*. The rostral of *P. albonuchalis* is distinctly deeper than wide whereas those of *P. taylori* and *P. mcnamarae* are as wide as deep. The hemipenis of *P. albonuchalis* (CNHM 131634) has spinose lobes, that of *P. taylori* calyculate ones. Differences from *P. saravacensis* are mentioned above.

KEY TO THE SPECIES OF *PSEUDORABDION*  
(Modified from Leviton and Brown, 1959)

- 1a. Loreal shield absent; prefrontal in contact with upper labials.
  - 2a. Preocular present; supraocular present; internasal not in contact with upper labials; maxillary teeth 11–12 ..... *P. longiceps*
  - 2b. Preocular absent; supraocular present or absent; internasals almost always in contact with upper labials.
  - 3a. Frontal borders orbit.
    - 4a. Maxillary teeth 12; postocular fused to ocular "Brille" ..... *P. ater*
    - 4b. Maxillary teeth 20; postocular not fused to ocular "Brille" ..... *P. collaris*
  - 3b. Frontal not bordering orbit.
    - 5a. Supraocular and postocular shields separate ..... *P. eiselti*
    - 5b. Supraocular and postocular shields fused.
      - 6a. Each scale of outer row with dark centers and light borders; ventrals uniformly dark brown except for extreme posterior outer edges which are light; ocular "Brille" usually fused to combined supra- and postoculars; subcaudals (♂) 22–24, (♀) 16–17 ..... *P. oxycephalum*
      - 6b. Each scale of outer row with light centers; ventrals whitish with dark brown more or less confined to a broad median band; ocular "Brille" not fused to combined supra- and postoculars; subcaudals (♂) 28, (♀) 21–24 ..... *P. montanum*
- 1b. Loreal shield present; prefrontal not in contact with upper labials.
  - 7a. Anterior chin shields not in contact with mental; nasal shield divided .... *P. sarasinorum*
  - 7b. Anterior chin shields in contact with mental; nasal shield not divided.
    - 8a. Maxillary teeth more than 15.
      - 9a. Ventrals more than 125; subcaudals more than 40 ..... *P. albonuchalis*
      - 9b. Ventrals less than 120; subcaudals less than 30 ..... *P. saravacensis*
    - 8b. Maxillary teeth less than 10.
      - 10a. Light nuchal collar usually present; subcaudals 17–30; distal portion of hemipenes minutely spinose ..... *P. mcnamarae*
      - 10b. Light nuchal collar absent; subcaudals more than 30; distal portion of hemipenes calyculate ..... *P. taylori*

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